

BUILDING MOISTURE CONTENT CERTIFICATION SYSTEM AND  
METHOD

Background of the Invention

5        This invention relates to certification of buildings and construction, and more particularly to a system and method for certifying buildings to have an identified moisture content level to identify the probability of mold growth claims or moisture damage  
10      claims against a builder or owner.

Mold, mildew and water problems in buildings are becoming more common, and can lead to substantial remediation efforts, with associated costs or litigation.

15      In any structure problems can arise if a particular level of moisture content exists. Mold will typically grow in wood or other organic construction material above a certain moisture content. Thus, mold can grow in construction material if sufficient  
20      moisture is present in the structure components. Apart from mold, moisture damage to the structure or components thereof may result from moisture.

Should mold or other moisture related damage develop, it is often detected immediately, or sometimes  
25      such detection is delayed. In some cases, it is never detected.

Mold and moisture remediation and prevention of future growth, is costly and time consuming. The  
30      existence of mold and moisture damage in a structure can cause public relations issues, wherein the builder or owner can be equated with the bad publicity related to the mold and moisture damage issues. Still further, legal issues can arise, related to the costs and delay of remediation, alleged health issues from occupants of  
35      the affected buildings, and contractual disputes

Express mail EV 277676583 US

arising over purchase or lease of the affected property, as a purchaser might wish to cancel a property transaction based on the mold issues.

Financing and monetary requirements often demand that structures be built as quickly as possible, to minimize the duration of construction financing, for example, and to increase construction related revenue. Such time constraints result in framing being covered up as quickly as possible. These time constraints do not allow a builder to have a partially completed structure sit for days or weeks to allow any moisture in the construction materials to naturally reach equilibrium with the moisture in the environment, and this increases the likelihood that moisture may be sealed up, leading to a higher likelihood of mold growth occurring. Depending on climate factors, the business cycle of construction may not allow sufficient time for waiting for the natural drying process. Thus, the likelihood that a building may have excessive moisture content is increased. The presence of moisture and/or mold may also impact the ownership, use, financing, insurability, refinancing and sale of structures.

In sales of homes or structures, both sellers and purchasers may be unaware of moisture content within the structure.

Heretofore, the issue of moisture content in a building has been addressed as an afterthought in reactive fashion. There has been no organized manner or system to examine and consider the moisture content of a building and or to certify this moisture state.

#### Summary of the Invention

In accordance with the invention, a certification system and method is provided for addressing the issue of moisture content in a structure. In accordance with

the system, a moisture content level determination is made and a certificate is issued to show moisture content.

Accordingly, it is an object of the present 5 invention to provide an improved method for determining and certifying moisture content levels in construction projects.

It is a further object of the present invention to provide an improved system for determining and 10 certifying of moisture content.

The subject matter of the present invention is particularly pointed out and distinctly claimed in the concluding portion of this specification. However, both the organization and method of operation, together 15 with further advantages and objects thereof, may best be understood by reference to the following description taken in connection with accompanying drawings wherein like reference characters refer to like elements.

20 Brief Description of the Drawing

FIG. 1 is a block diagram of the process according to the present invention.

Detailed Description

25 The invention according to a preferred embodiment comprises a system and method for certifying a structure to have a moisture content. The certification may include certifying that moisture content levels have been measured, and may include a 30 report of the measurement data that was actually recorded during the certification measurement phase.

Referring now to FIG. 1, which is a block diagram of the moisture level certification process according to the present invention, initial readings of moisture 35 content as well as the relative humidity and

temperature are taken throughout the interior of the structure under test (step 12). The relative humidity and temperature measurements are made to determine grains per pound. Moisture content readings may be 5 made, for example, with a GE Protimeter MMS Plus model by GE Protimeter, 500 Research Drive, Wilmington, MA, US, or the Tramex Moisture Meter, from Tramex Ltd. of Dublin, Ireland moisture meter in the preferred embodiment.

10        In making the measurements, test sites are selected to be places where moisture might typically exist throughout the structure, including but not limited to openings such as window frames, door frames, electrical outlets and the like. In buildings where a 15 vapor barrier is present, any location where the vapor barrier might have been cut is measured. Further, measurements are taken along the floor, floor boards and baseboards, walls and ceiling. Typically a measurement every 1 to 2 feet would be sufficient.

20        After measurements have all been taken, typically in each room, for example, the measurement meter is connected to a computer and the data therein is uploaded to a database, for example, giving temperature, relative humidity, moisture content, 25 grains per pound, etc., as well as the date and time of measurement. The computer may also include a printer or other I/O devices for printing or otherwise reporting data.

Next, in step 14, a report is made of the results. 30        In a particular embodiment, this report comprises details of a number of things, including:  
Relative Humidity;  
Temperature;  
Grains Per Pound (specific humidity);  
35        Moisture content measurements taken.

A decision may now be made at decision block 15, whether interpretation of the moisture content measurements in the report is desired. If not, then the report certifies the measurements made and the 5 process is then completed. The report certificate can advantageously include a print of the measurement data, showing all the measurement values, if desired.

If interpretation is desired, then next, in step 10 16, a determination is made based on the results of the report, whether the moisture level within the portion of the structure being tested (testing may be done on subsets of an entire building) is within a desired level (for example, under 20% or under 18% in particular embodiments). If so, then a moisture 15 content level pass certificate is issued (step 18), which the building owner/builder/selling agent/buyer can then keep to establish the moisture content level. The process is then completed.

However, if at decision block 16, moisture content 20 was not within the desired level, a determination may be made at block 20 as to whether a moisture content level fail certificate is to be issued. If so, then a moisture content level failure certificate is issued 25 (step 22). In either case, the process is then completed.

Thus, in accordance with the system and method, a certificate is provided indicating that a structure has been tested as to its moisture content. Should moisture or mold problems arise later, however, the 30 certificate holder has useful information to help locate the cause of the moisture or mold growth, or to identify lack of liability. It can also assist in determining the construction stage where the moisture damage or mold infestation was caused. Such 35 certificate may be useful in obtaining more favorable

insurance rates.

Additionally, the issuance of a failure certificate can be desirable and useful, when the certificate recipient is a party that is attempting to 5 have moisture or mold remediation performed, or is attempting to prove the existence of the problem or to determine liability for remediation.

If a certificate is not issued, as a result of failing to pass, or if a failure certificate is issued, 10 moisture removal may be performed as a remediation. Such moisture removal may be accomplished, as an example, in the manner described in co-pending U.S. patent application SN \_\_/\_\_\_,\_\_\_, filed concurrently herewith by the inventors of this present application, 15 entitled MOISTURE REDUCTION AND MOLD AND MOISTURE DAMAGE PREVENTATIVE SYSTEM AND METHOD IN CONSTRUCTION, the disclosure of which is hereby incorporated by reference. Once such moisture removal is accomplished, the moisture content level certification process can be 20 performed again, to then issue a certificate

While a preferred embodiment of the present invention has been shown and described, it will be apparent to those skilled in the art that many changes and modifications may be made without departing from 25 the invention in its broader aspects. For example, while the preferred embodiments relate to desired moisture content levels being below a desired threshold, alternate embodiments include situations where the pass or failure of a moisture content 30 analysis depends on the moisture content being above a desired threshold level or within a desired range. The appended claims are therefore intended to cover all such changes and modifications as fall within the true spirit and scope of the invention.